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10/625,915	07/23/2003	Andrew Wells Phelps	UVD 0280 IA/UD 268	3052

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EXAMINER

ZHENG, LOIS L

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 01/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/625,915

Applicant(s)

PHELPS ET AL.

Examiner

Lois Zheng

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-166 is/are pending in the application.
- 4a) Of the above claim(s) 14-36, 41, 42 and 47-162 and 164-166 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13, 37-40, 43-46 and 163 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/12/05, 7/23/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of invention group I, claims 1-49 and 163, in the reply filed on 27 October 2005 is acknowledged.
2. Claims 50-162 and 164-166 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention groups II and III, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 27 October 2005.
3. Applicant's election with traverse of inorganic valence stabilizer, cationic solubility control agents, and active UV blocker in the reply filed on 27 October 2005 is acknowledged. The traversal is on the ground(s) that upon allowance of a generic claim, applicants will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim. This is not found persuasive because no generic claims are found allowable at this time.

The requirement is still deemed proper and is therefore made FINAL.
4. Claims 14-36, 41-42 and 47-49 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 27 October 2005.
5. The examiner would like to thank the applicant for pointing out the typographical error in the previous Office Action for Election/Restriction. The examiner agrees that

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Group II, claims 50-82 and 164, is drawn to a method of making a corrosion-inhibiting conversion coating bath; Group III, claims 83-131 and 165, is drawn to a method of applying a corrosion-inhibiting conversion coating; and Group IV, claims 132-162 and 166, is drawn to a corrosion-inhibiting conversion coating bath.

6. A telephone call was made to the office of Patricia L Prior on 6 January 2006 to notify the applicant that claims 32-36, even though was not included in the original election of species, are withdrawn since they depend on nonelected species(i.e. organic valence stabilizer).

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 4-5, 8-13, 37-40 and 163 are rejected under 35 U.S.C. 102(b) as being anticipated by PCT publication WO 98/48075. Tadokoro et al. US 6,200,672

B1(Tadokoro) is the national stage entry of the PCT publication document WO 98/48075, which is in Japanese. Therefore, the examiner will use the teachings of Tadokoro for the rejection of the instant claims in this Office Action.

Tadokoro teaches an aqueous metal surface treatment fluid comprising a rare earth element such as tetravalent cerium(col. 5 lines 6-9) and oxyacid anions such as phosphate, tungstate, vanadate anions, wherein the rare earth metal elements and the oxyacid anions form oxyacid compounds(col. 9 lines 28-33). Tadokoro further teaches

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a rare earth metal complex comprising rare earth elements such as tetravalent cerium and an inorganic compounds such as phosphates, nitrates and sulfates(col. 5 lines 27-31).

Regarding instant claims 1 and 11-13, the tetravalent cerium of Tadokoro reads on the claimed rare earth element and the phosphate, tungstate, vanadate, sulfate and nitrate of Tadokoro read on the claimed inorganic valence stabilizer. The oxyacid compound or the rare earth metal complex of Tadokoro reads on the rare earth/valence stabilizer complex as claimed.

Regarding instant claim 163, Tadokoro further teaches that the solubility of the rare earth metal complex is no greater than 0.01 mol/l(col. 5 lines 36-38). Since about 25°C reads on room temperature and 760Torr is atmospheric pressure, the examiner asserts that the solubility as taught by Tadokoro reads on the limitation of the rare earth/valence stabilizer complex being sparingly soluble since the solubility as taught by Tadokoro significantly overlaps the solubility of about 5×10^{-1} and about 1×10^{-5} mol/l as recited in instant claim 2 and the solubility of about 5×10^{-2} and about 5×10^{-5} mol/l as recited in instant claim 3.

Regarding instant claim 4, since Tadokoro teaches the claimed rare earth/valence stabilizer, the electrostatic barrier layer around the rare earth/valence stabilizer complex is inherent present as claimed.

Regarding instant claim 5, since Tadokoro teaches the claimed rare earth/valence stabilizer complex, the function of the rare earth/valence stabilizer complex as an ion exchange agent towards corrosive ions is inherent.

Regarding instant claim 8, Tadokoro further teaches the coated metal surface can be further covered by an over coat layer(col. 10 lines 35-38). Since Tadokoro teaches the same rare earth/valence stabilizer complex as claimed in its coating fluid, the coating solution of Tadokoro inherently has the same adhesion enhancing morphology as claimed.

Regarding instant claims 9-10, Tadokoro teaches vanadate anion and cerium forming an oxyacid compound. Therefore, the vanadium ion reads on the claimed additional ion. Since the oxyacid compound of Tadokoro reads on the claimed rare earth/valence stabilizer, the examiner asserts that the rare earth/valence stabilizer as taught by Tadokoro inherently has a central cavity containing cerium as claimed.

Regarding instant claims 37-40, Tadokoro teaches the presence of cerium ions which read on the claimed cationic solubility control agent. Tadokoro further teaches the presence of calcium, zinc, lanthanum, hydrogen, zirconium and titanium ions(col. 10 lines 9-18) which also read on the claimed cationic solubility control agent.

9. Claims 1, 4-5, 8-13, 37-40, 43-45 and 163 are rejected under 35 U.S.C. 102(b) as being anticipated by DePue et al. US 5,322,560(DePue).

DePue teaches a slightly water soluble corrosion inhibitor compound in an aqueous solution for treating aluminum flake pigment(abstract). The corrosion inhibitor compound comprises a rare earth metal such as tetravalent cerium(col. 2 lines 55-60), a silicon salt and a metal oxo-complexes of Ti, V, Cr, Zr, Nb, Mo, Hf, Ta and W(col. 2 lines 27-36, col. 3 lines 17-22).

Regarding instant claim 1, 11-13 and 163, the tetravalent cerium as taught by DePue reads on the claimed rare earth element and the oxo-complexes of Ti, V, Cr, Zr, Nb, Mo, Hf, Ta and W reads on the claimed inorganic valence stabilizer. In addition, since the corrosion inhibiting compound of DePue is slightly soluble in water, it meets the limitation of "sparingly soluble in water at about 25°C and about 760Torr" as recited in instant claim 163. Therefore, the claimed rare earth/valence stabilizer complex is inherently present in the corrosion inhibiting compound of DePue.

Regarding instant claims 4-5, since DePue teaches the inherently teaches the claimed rare earth/valence stabilizer complex, the claimed electrostatic barrier layer is also inherently present around the rare earth/valence stabilizer complex of DePue as recited in instant claim 4. The rare earth/valence stabilizer complex of DePue is also inherently capable of acting as an ion exchange agent towards corrosive ions as recited in instant claim 5.

Regarding instant claim 8, DePue further teaches the coated metal surface can be further covered by a clear over coat layer(col. 6 lines 61-63). Since DePue teaches the same rare earth/valence stabilizer complex as claimed in its coating fluid, the coating solution of Tadokoro inherently has the same adhesion enhancing morphology as claimed.

Regarding instant claim 9-10, since DePue teaches the claimed rare earth/valence stabilizer complex, it also inherently teaches the central cavity containing cerium as recited in instant claim 9. In addition, the metal oxo-complexes(i.e. valence

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stabilizer) as taught by DePue contains Ti, Zr, V, Cr ions, which read on the claimed additional ions as recited in instant claims 9-10.

Regarding instant claims 37-40, DePue further teaches the presence of Na ions from the metal oxo-complexes(col. 3 lines 17-22), which reads on the cationic solubility control agent as claimed. In addition, the Ce, Ti, Zr, V, Cr, W, Mo, Nb, Hf, Ta as taught by DePue also read on the claimed cationic solubility control agent.

Regarding instant claim 43, DePue teaches that the coating prepared by applying the corrosion inhibiting compound contains is colored as claimed.

Regarding instant claims 44-45, DePue further teaches a color brightener(col. 6 lines 12-28) which read on the agent for improving color-fastness.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 2-3 and 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tadokoro.

The teachings of Tadokoro are discussed in paragraph 8 above.

Regarding instant claims 2-3, Tadokoro further teaches that the solubility of the rare earth metal complex is no greater than 0.01 mol/l(col. 5 lines 36-38). Since about 25°C reads on room temperature and 760Torr is atmospheric pressure, the examiner asserts that the solubility of no greater than 0.01 mol/l as taught by Tadokoro overlaps

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the solubility of about 5×10^{-1} and about 1×10^{-5} mol/l as recited in instant claim 2 and the solubility of about 5×10^{-2} and about 5×10^{-5} mol/l as recited in instant claim 3.

Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed solubility from the solubility of Tadokoro would have been obvious to one of ordinary skill in the art since Tadokoro teaches the same utilities in its disclosed solubility range.

Regarding instant claims 6-7, Tadokoro further teaches that the coating thickness is 0.1 microns to 10 microns(col. 10 lines 27-34) which overlaps the claimed about 25-10,000 nanometers as recited in instant claim 6 and the claimed about 100-500 nanometers as recited in instant claim 7. Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed coating thickness from the coating thickness of Tadokoro would have been obvious to one of ordinary skill in the art since Tadokoro teaches the same utilities in its disclosed coating thickness range.

12. Claims 43-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tadokoro in view of Dattilo US 6,291,018 B1(Dattilo).

The teachings of Tadokoro are discussed in paragraphs 8 and 11 above. However, Tadokoro does not explicitly teach an agent to improve color-fastness as claimed.

Dattilo teaches a metal surface treatment coating composition comprising color pigments such as carbon black and phthalocyanines(col. 5 lines 34-41).

Therefore, it would have been obvious to one of ordinary skill in the art to have incorporated color pigments such as carbon black and phthalocyanines as taught by

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Dattilo into the coating composition of Tadokoro in order to provide decorative effect to the coating formed as taught by Dattilo(col. 5 lines 34-38).

Therefore, the coating composition of Tadokoro in view of Dattilo is colored as recited in instant claim 43 and also comprises an agent that improves color-fastness as recited in instant claim 44. Color pigments such as carbon black and phthalocyanines as taught by Tadokoro in view of Dattilo also read on the claimed active UV blocker as recited in instant claims 45-46.

13. Claims 2-3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over DePue.

The teachings of DePue are discussed in paragraph 9 above.

Regarding instant claims 2-3, DePue further teaches the solubility of the corrosion inhibiting compound is no more than 10^{-3} m/l(col. 3 lines 4-6), which overlaps the solubility of about 5×10^{-1} and about 1×10^{-5} mol/l as recited in instant claim 2 and the solubility of about 5×10^{-2} and about 5×10^{-5} mol/l as recited in instant claim 3.

Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed solubility from the solubility of DePue would have been obvious to one of ordinary skill in the art since DePue teaches the same utilities in its disclosed solubility range.

Regarding instant claim 6, DePue further teaches that the coating thickness is about 1-150 microns(col. 6 lines 57-58), which encompasses the claimed about 25-10,000 nanometers as recited in instant claim 6. Therefore, a prima facie case of obviousness exists. See MPEP 2144.05. The selection of claimed coating thickness

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from the coating thickness of Tadokoro would have been obvious to one of ordinary skill in the art since Tadokoro teaches the same utilities in its disclosed coating thickness range.

14. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over DePue in view of Dattilo US 6,291,018 B1(Dattilo).

The teachings of Tadokoro are discussed in paragraphs 9 and 13 above. However, Tadokoro does not explicitly teach an agent to improve color-fastness as claimed.

Dattilo teaches a metal surface treatment coating composition comprising color pigments such as carbon black and phthalocyanines(col. 5 lines 34-41).

Therefore, it would have been obvious to one of ordinary skill in the art to have incorporated color pigments such as carbon black and phthalocyanines as taught by Dattilo into the corrosion inhibiting compound of DePue in order to provide decorative effect to the coating formed as taught by Dattilo(col. 5 lines 34-38).

Double Patenting

15. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

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A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

16. Claims are provisionally 1-13, 37-40, 43-46 and 163 rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-11, 35-38, 41-47, 51-55 and 137 of copending Application No. 10/625,886.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims in the instant application are directed to a corrosion-inhibiting conversion coating comprising a rare earth element and a valence stabilizer combined to form a rare earth/valence stabilizer complex, whereas the claims of copending Application No. 10/625,886 are directed to a corrosion-inhibiting seal also comprising a rare earth element and a valence stabilizer combined to form a rare earth/valence stabilizer complex. Even though the instant application does not explicitly teach the corrosion-inhibiting conversion coating can be used as a seal, one of ordinary skill in the art would have found it obvious that the corrosion-inhibiting conversion coating of the instant invention can also be used as a seal since the conversion coating of the instant invention and the seal of copending Application No. 10/625,886 comprise the same composition. In addition, the corrosion-inhibiting seal is also a coating.

This is a provisional obviousness-type double patenting rejection since the conflicting claims have not in fact been patented.

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17. Claims 1-13, 37-40, 43-46 and 163 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5, 8-12, 36-39, 43-45 and 102 of copending Application No. 10/625,885.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims in the instant application are directed to a corrosion-inhibiting conversion coating comprising a rare earth element and a valence stabilizer combined to form a rare earth/valence stabilizer complex, whereas the claims of copending Application No. 10/625,885 are directed to a corrosion-inhibiting pigment also comprising a rare earth element and a valence stabilizer combined to form a rare earth/valence stabilizer complex. Even though the instant application does not explicitly teach the corrosion-inhibiting conversion coating can be used as a pigment, one of ordinary skill in the art would have found it obvious that the corrosion-inhibiting conversion coating of the instant invention can also be used as a corrosion-inhibiting pigment since the conversion coating of the instant invention and the pigment of copending Application No. 10/625,885 comprise the same composition. In addition, a corrosion-inhibiting pigment is also a coating material.

This is a provisional obviousness-type double patenting rejection since the conflicting claims have not in fact been patented.

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Wada et al. US 6,193,815 B1 teaches a corrosion resistant coating composition comprising tetravalent Ce, phosphate with a concentration of 0.01 to 5 g/l, titanium containing substance, aluminum ions, and accelerators such as sodium or potassium salts of nitrous acid, nitric acid, tungstic acid, molybdic acid, permanganic acid.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lois Zheng whose telephone number is (571) 272-1248. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LLZ


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